UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,629	10/29/2003	Oleg Logvinov	103880-037 US	7339

7590 04/09/2008

Oleg Logvinor
220 New Old Brunswick Road
Suite 202
Piscataway, NJ 08854

EXAMINER	
DUONG, CHRISTINE T	
ART UNIT	PAPER NUMBER
2616	

MAIL DATE	DELIVERY MODE
04/09/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/697,629	LOGVINOV ET AL.	
	Examiner	Art Unit	
	CHRISTINE DUONG	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 January 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This is in response to the Applicant's arguments and amendments filed on 25 January 2008 in which claims 1-6 are currently pending.

Claim Objections

1. Claim 1 is objected to because of the following informalities:

regarding claim 1, there is insufficient antecedent basis for the limitation "the programmable coprocessor" in lines 3-4.

In addition, regarding claim 1, it is unclear whether the limitations "a very flexible Medium Access Control and Physical layer (MAC and PHY) controller" in lines 1-2 and "the programmable coprocessor" in lines 3-4 are intended to be the same.

In addition, regarding claim 1, it is unclear whether the limitations "programmable pre-defined operation hardware coprocessor modules" in lines 2-3 and "pre-defined hardware blocks having parameterized functions whose parameter values are programmable" in lines 4-5 are intended to be the same.

In addition, regarding claim 1, it is unclear which element is coupled to "a general purpose coprocessor and hardwired DSP logic" in lines 5-6. It is understood that "the programmable coprocessor" is the element that controls "pre-defined hardware blocks having parameterized functions whose parameter values are programmable" and that also is coupled "to a general purpose coprocessor and hardwired DSP logic".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. Claims 1-3, 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schaeffer, JR. et al. further in view of Lu et al. (US Patent No. 6,810,520 B2).

Regarding **Claim 1**, Schaeffer, JR. et al. discloses a very flexible Medium Access Control and Physical layer (MAC and PHY) controller **("media access controller/physical interface (MAC/PHY) 14", [0050])** comprising programmable pre-defined operation hardware coprocessor modules **("a single MAC/PHY integrated circuit is capable of providing its service for multiple data ports", [0071])**, wherein the programmable coprocessor controls pre-defined hardware blocks having parameterized functions whose parameter values are programmable are coupled to a general purpose processor and hardwired DSP logic **("The MAC/PHY 14 is any industry standard processor that is capable of 1) preparing data signals for transport on powerlines, and 2) retrieving data signals that have been transmitted via powerlines", [0057] and Fig. 13).**

However, Schaeffer, JR. et al. fails to specifically disclose programmable pre-defined operation hardware coprocessor modules, the programmable coprocessor controls pre-defined hardware blocks having parameterized functions whose parameter values are programmable.

Nevertheless, Lu et al. teaches **"The soft MAC 210 is divided into the following modules and each module provides standard APIs for inter-module communication purposes: MAC transmitter module 220; MAC receiver module 230; Deference algorithm module 240; MAC statistical information maintenance**

module 250; Other management function module 260; and MAC utility module 270. The MAC receiver module 230 enables preprocessing of the packet received from the PHY layer which includes packet recognition, packet format checking, error checking, statistical information report to the statistical maintenance module 250" (Lu et al. column 4 lines 8-24) and "the modulized soft MAC 315 is implemented in a microprocessor or MAC controller 300" (Lu et al. column 5 lines 38-40).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have programmable pre-defined operation hardware coprocessor modules, the programmable coprocessor controls pre-defined hardware blocks having parameterized functions whose parameter values are programmable because it will **"provide a new software based or programmable MAC implementation architecture which would speed up MAC implementation development, MAC/PHY and MAC/host integration, enable multiple MAC implementations and increase MAC portability for different applications and platforms" (Lu et al. column 2 lines 35-41).**

Regarding **Claim 2**, Schaeffer, JR. et al. and Lu et al. discloses everything claimed as applied above (see *Claim 1*). In addition, the hardware module can be easily adapted to changes in regulatory **("security is an excellent application of the technology", [0092])**, device **("One application of control signals is to send a signal that will turn lights on and off, control audio systems, intercoms, security systems, and television entertainment systems" [0096] or "home monitoring**

devices such as smoke detectors or carbon monoxide detectors" [0099]) and end-product requirements with simple software changes **("ability to adapt to protocols in order to transport useful data. Consider the subject of what will be discussed hereinafter as common protocols, cross-protocols, and native protocols", [0101]).**

However, Schaeffer, JR. et al. fails to specifically disclose the hardware module can be easily adapted to changes in regulatory with simple software changes.

Nevertheless, Lu et al. teaches **"In addition to the current requirements of the different MAC architectures and MAC implementations for various standards, development of the new home LAN technology, for example, is causing existing MAC standards to evolve and/or new MAC standards to emerge" (Lu et al. column 2 lines 30-34).**

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have the hardware module be easily adapted to changes in regulatory with simple software changes because it will **"provide a new software based or programmable MAC implementation architecture which would speed up MAC implementation development, MAC/PHY and MAC/host integration, enable multiple MAC implementations and increase MAC portability for different applications and platforms" (Lu et al. column 2 lines 35-41).**

Regarding **Claim 3**, Schaeffer, JR. et al. and Lu et al. discloses everything claimed as applied above (see *Claim 1*). In addition, the hardware modules are an implementation of a PLC MAC/PHY, targeted at an in-home environment **("the purpose of the MAC/PHY 14 is to consider it as the bridge between a powerline**

and whatever other data transport medium is being used", [0058] and "Consider first a group of homes as shown in FIG. 8. Typically, a group of homes 130 will all be connected to the same transformer 132 to receive electricity", [0087] and Fig. 8).

Regarding **Claim 5**, Schaeffer, JR. et al. and Lu et al. discloses everything claimed as applied above (see *Claim 1*). In addition, the hardware modules are an implementation of a PLC MAC/PHY, targeted at an MDU/MTU environment **("the purpose of the MAC/PHY 14 is to consider it as the bridge between a powerline and whatever other data transport medium is being used", [0058] and "the analogous situations that will occur in office buildings or hotel environments. The cost savings of being able to network hotel rooms without having to install computer cabling would be large, especially in larger hotels", [0089]).**

Regarding **Claim 6**, Schaeffer, JR. et al. and Lu et al. discloses everything claimed as applied above (see *Claim 1*). In addition, the hardware modules are an implementation of a MAC/PHY targeted at any communications technology **("existing powerlines are utilized as a data transport medium whereby computer network data, audio data, video data, control signals, native communication signals, and any combinations thereof are transported via powerlines", abstract)**

3. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Schaeffer, JR. et al. and Lu et al. further in view of Ashlock et al.

Regarding **Claim 4**, Schaeffer, JR. et al. and Lu et al. discloses everything claimed as applied above (see *Claim 1*). However, Schaeffer, JR. et al. and Lu et al.

fails to specifically disclose that the hardware modules are an implementation of a PLC MAC/PHY, targeted at an access environment, as claimed.

Nevertheless, Ashlock et al. teaches **"the utilization of power line networking to transport signals to a wireless Access Point (AP)" (Ashlock et al.: [0013]).**

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to apply Schaeffer, JR. et al. and Lu et al.'s invention for an access environment because it will **"enable wireless information and/or wireless telephony (commonly referred to, but not limited to Voice-over-IP and/or Voice-over-DSL) by creation and use of power line media adapters" (Ashlock et al.: [0013]).**

Response to Arguments

Previous minor informalities objection to claims 2-6 are withdrawn in view of Applicant's amendment.

4. Applicant's arguments with respect to claims 1 and 2 have been considered but are moot in view of the new ground(s) of rejection.

Citation of Pertinent Prior Art

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Youngman (US Patent No. 6,049,837) discloses a programmable output interface in an Open System Interconnection (OSI) enables a Media Access (MAC) Layer to access a variety of Physical (PHY) Layer implementations without redesign of the interface.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTINE DUONG whose telephone number is (571)270-1664. The examiner can normally be reached on Monday - Friday: 830 AM-6 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Seema S. Rao/
Supervisory Patent Examiner,
Art Unit 2616

/Christine Duong/
Examiner, Art Unit 2616
04/04/2008